



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/038,451	01/03/2002	Masaya Okita	Soyu C4B	8378
7590 Flynn, Thiel, Boutell & Tanis, P.C. 2026 Rambling Road Kalamazoo, MI 49008-1699		01/08/2008	EXAMINER KUMAR, SRILAKSHMI K	
		ART UNIT	PAPER NUMBER	
		2629		
		MAIL DATE	DELIVERY MODE	
		01/08/2008	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/038,451	<b>Applicant(s)</b> OKITA, MASAYA	
	<b>Examiner</b> Srilakshmi K. Kumar	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 38-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 38-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The following office action is in response to the Request for Continued Examination filed on October 31, 2007. Claims 38-41 are pending. Claims 1-37 are cancelled. Claims 38-41 are newly added.

#### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 38-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al (US 4,795,239) in view of Shimada et al (US 5,719,590).

As to independent claims 38 and 40, Yamashita et al teach a method for driving liquid crystal for a liquid crystal display (11) device having a liquid crystal panel sandwiching liquid crystal between two electrodes that are disposed between two polarizing plates (col. 1, lines 6-11), comprising: applying a voltage (voltage S1'-Sm') corresponding to image data (COM') between the two electrodes and thereby depicting an image on the liquid crystal panel (Fig.1); and applying an appropriate voltage (VITO, a constant voltage) between the two electrodes.

Yamashita et al do not explicitly state where the liquid crystal used in the display is a nematic liquid crystal. It is well known in the art that the liquid crystal is nematic as is the most common. Further, Shimada et al teach using twisted nematic liquid crystal in col. 4, lines 23-26. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a nematic liquid crystal as taught by Shimada et al into the LCD system of Yamashita

et al in order for proper excitation of the liquid crystal, thus producing gray levels for producing images.

Yamashita et al do not teach where the appropriate voltage is applied in each frame period, and thereby erasing the image depicted on the liquid crystal panel within the same frame period. Shimada et al teach the application of an appropriate voltage in each frame period in col. 5, lines 26-45 and col. 6, lines 17-67, and Fig. 2. Shimada et al teaches that the constant voltage erases the image displayed in col. 13, lines 66-col. 14, line 21. It would have been obvious to one of ordinary skill in the art to include where the appropriate voltage is applied in each frame period in order to have smaller time periods for the driving to improve timing and display quality, and further to include where the appropriate voltage erases the image in each frame as taught by Shimada et al into the liquid crystal display of Yamashita et al in order for improving uniformity, (Shimada et al, col. 3, lines 18-35).

As to dependent claims 39 and 41, limitations of claim 38, and further comprising, Shimada et al teach wherein erasure of the image in each frame period is effected by substantially blacking the liquid crystal panel (col. 13, lines 66-col. 14, line 21, resetting the display, thus substantially blacking the liquid crystal panel in order to create increased contrast uniformity).

### ***Response to Arguments***

3. Applicant's arguments filed October 31, 2007 have been fully considered but they are not persuasive.

With respect to claims 30-37, these claims have been cancelled, therefore arguments with respect to these claims are moot.

Applicant states on page 4 of the remarks where claim 37 is new. However, claim 37 is shown to be cancelled. As shown by the amendment to the claims, claims 1-37 are cancelled and claims 38-41 are newly added.

With respect to applicant's arguments of where the prior art of Yamashita and Shimada do not teach a two step application of the voltage, comprising applying voltages corresponding to image data and applying constant voltage, examiner, respectfully, disagrees. Yamashita teaches applying two voltages  $V_{s1'}$  and  $V_{ITO}$ , where  $V_{ITO}$  is a constant voltage. Yamashita does not teach where the second constant voltage is one that is applied in each frame and causes the erase. Shimada teaches this feature in col. 5, lines 26-45 and col. 6, lines 17-67, and Fig. 2. Shimada et al teaches that the constant voltage erases the image displayed in col. 13, lines 66-col. 14, line 21. Further, applicant argues where there would be no motivation to combine Yamashita et al with Shimada et al as the Yamashita device would not properly work if combined. Examiner, respectfully, disagrees. The combination is proper, and it would have been obvious to one of ordinary skill in the art to include where the appropriate voltage erases the image in each frame as taught by Shimada et al into the liquid crystal display of Yamashita et al in order for improving uniformity, (Shimada et al, col. 3, lines 18-35). Therefore, the combination of Yamashita et al in view of Shimada et al teach the claims set forth in the instant application.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Srilakshmi K. Kumar whose telephone number is 571 272 7769. The examiner can normally be reached on 9:00 am to 5:30 pm.

Application/Control Number:  
10/038,451  
Art Unit: 2629

Page 5

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue Lefkowitz can be reached on 571 272 3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Srilakshmi K Kumar  
Examiner  
Art Unit 2629

SKK  
January 3, 2008